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# SCIENCE

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## CONTENTS

<i>Graduate Work in Mathematics in Universities and in Other Institutions of Like Grade in the United States</i> .....	853
<i>Address at the Unveiling of the Bust of Wolcott Gibbs in Rumford Hall, Chemists' Club: PROFESSOR CHARLES E. MUNROE</i> ...	864
<i>Scientific Notes and News</i> .....	868
<i>University and Educational News</i> .....	872
<i>Discussion and Correspondence:—</i>	
<i>Astronomical References in Text-books on Physics: PROFESSOR C. A. CHANT. Air in the Depths of the Ocean: G. W. LITTLEHALES. Contagious Abortion of Cattle: W. J. MACNEAL. The Meetings of Scientific Societies: PROFESSOR M. W. MORSE. Regarding paying the Expenses of Station Workers to Scientific Meetings: PROFESSOR F. L. WASHBURN</i> .....	873
<i>Scientific Books:—</i>	
<i>Yerkes's Introduction to Psychology, Pillsbury's The Essentials of Psychology, Myers's Introduction to Experimental Psychology, Ladd and Woodworth's Physiological Psychology: PROFESSOR HOWARD C. WARREN. Hammarsten's Text-book of Physiological Chemistry: PROFESSOR LA-FAYETTE B. MENDEL</i> .....	877
<i>Special Articles:—</i>	
<i>On the Nature and Seat of the Electromotive Forces manifested by Living Organs: PROFESSOR JACQUES LOEB and REINHARD BEUTNER. The Permeability of the Ovarian Egg-membranes of the Fowl: DR. OSCAR RIDDLE</i> .....	884
<i>The Convocation Week Meetings of Scientific Societies</i> .....	889
<i>Societies and Academies:—</i>	
<i>The Biological Section of the New York Academy of Sciences: DR. L. HUSSAKOF. The Torrey Botanical Club: FRED J. SEAVER</i> .....	891

## GRADUATE WORK IN MATHEMATICS IN UNIVERSITIES AND IN OTHER INSTITUTIONS OF LIKE GRADE IN THE UNITED STATES<sup>1</sup>

### I. THE ESTABLISHMENT OF ADVANCED INSTRUCTION IN THE UNITED STATES

FORTY years ago the bachelor's degree granted on the completion of a four years' course of a general character marked not merely the close of a young man's liberal education, but also, except in the case of some lawyers, ministers and physicians, the end of all academic instruction of any kind. In particular, apart from a few exceptional cases, no advanced instruction in mathematics was anywhere provided beyond the usually rather meager ingredients—hardly more than analytic geometry and a little calculus—of this college course, which consisted mainly of prescribed studies. As an external sign of this state of affairs we note that the master's degree, where it existed, was conferred for reasons having very little to do with study, while the doctor's degree was practically non-existent.<sup>2</sup> The desire for higher education in America, which had been felt for many years by some of the leading minds of the country, had been able so far to achieve only momentary and sporadic success.

<sup>1</sup>General report of the committee consisting of Professor Maxime Bôcher, Harvard University, Cambridge, Mass., *chairman*; Professor D. R. Curtiss, Northwestern University, Evanston, Ill.; Professor Percy F. Smith, Yale University, New Haven, Conn., and Professor E. B. Van Vleck, The University of Wisconsin, Madison, Wis. The report is Bulletin No. 6 (1911) of the United States Bureau of Education.

<sup>2</sup>Except at Yale University, where the degree of doctor of philosophy was established in 1860.